

Optimal Page Replacement Algorithm

This project consists of implementing the Optimal Page Replacement Algorithm on a reference string. As reviewed in class, the Optimal Page Replacement Algorithm replaces the page that is not going to be used for the longest period of time.

Your program should work as follows:

Enter a reference string:

7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1 (required)

Enter the # of frames:

3 (your program should be able to support any # of frames)

Running simulation:

Start: Memory is: * * *

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7: Memory is: 7 * *: Page Fault: (Number of Page Faults: 1)
0: Memory is: 7 0 *: Page Fault: (Number of Page Faults: 2)
1: Memory is: 7 0 1: Page Fault: (Number of Page Faults: 3)
2: Memory is: 2 0 1: Page Fault: (Number of Page Faults: 4)
0: Memory is: 2 0 1: Hit: (Number of Page Faults: 4)
3: Memory is: 2 0 3: Page Fault: (Number of Page Faults: 5)
0: Memory is: 2 0 3: Hit: (Number of Page Faults: 5)
4: Memory is: 2 4 3: Page Fault: (Number of Page Faults: 6)
2: Memory is: 2 4 3: Hit: (Number of Page Faults: 6)
3: Memory is: 2 4 3: Hit: (Number of Page Faults: 6)
0: Memory is: 2 0 3: Page Fault: (Number of Page Faults: 7)
3: Memory is: 2 0 3: Hit: (Number of Page Faults: 7)
2: Memory is: 2 0 3: Hit: (Number of Page Faults: 7)
1: Memory is: 2 0 1: Page Fault: (Number of Page Faults: 8)
2: Memory is: 2 0 1: Hit: (Number of Page Faults: 8)
0: Memory is: 2 0 1: Hit: (Number of Page Faults: 8)
1: Memory is: 2 0 1: Hit: (Number of Page Faults: 8)
7: Memory is: 7 0 1: Page Fault: (Number of Page Faults: 9)
0: Memory is: 7 0 1: Hit: (Number of Page Faults: 9)
1: Memory is: 7 0 1: Hit: (Number of Page Faults: 9)
Total Number of Page Faults: 9
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Extra Credit: You may implement Least Recently Used for Extra Credit.

This assignment is due April 20, 2020.